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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,528	06/25/2001	Michael A. Ekhaus	7744.0061	5737

			EXAMINER
26111	7590	09/26/2006	TARAE, CATHERINE MICHELLE

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WASHINGTON, DC 20005

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,11-18 and 36-41* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,11-18 and 36-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   The following is a Non-Final Office Action in response to the communication

received on June 27, 2006.

Claims 20-26 and 28-34 have been previously canceled.

Claims 9, 10, 19, 27 and 35 have been previously withdrawn from further

consideration.

Claims 36-41 have been added.

Claims 1-19, 27 and 35-41 are now pending in this application.

Claims 1-8, 11-18 and 36-41 are rejected below.

Response to Amendments

2.   Applicant's addition of claims 36-41 is acknowledged.

Response to Arguments

3.   Applicant's arguments have been fully considered and are found persuasive. In

the Remarks, Applicant argues that Hosken (U.S. 6,438,579) does not have support in

its provisional application (U.S. 60/144,377) for the teaching of a sparse ratings matrix.

Examiner has found this argument persuasive and is providing a new grounds of

rejection below.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1-8, 11-18 and 36-41 are rejected under 35 U.S.C. 102(a,e) as being

anticipated by Sheena et al. (U.S. 6,049,777).

As per claim 1, Sheena et al. discloses a method of preparing a recommendation

to be accessed by a user comprising the steps of:

providing a sparse ratings matrix (col. 11, lines 58-60; The system discloses

using a sparse ratings matrix.);

forming a plurality of data structures representing said sparse ratings matrix (col.

3, lines 40-57; col. 4, lines 56-67; The sparse ratings matrix is comprised of sparse

vectors that represent item profiles and user profiles, where the item profiles include

ratings on the items and the user profiles include users' ratings of the items.);

forming a runtime recommendation model from said plurality of data structures

(col. 8, line 41-col. 9, line 56; Several similarity models are used to determine

recommendations for users.);

determining a recommendation from said runtime recommendation model in response to a request from a user (col. 8, line 28-col. 9, line 56; Several similarity models are used to determine recommendations for users.); and

providing said recommendation to said user (col. 11, lines 45-55; item 110 in Figures 1 and 3; Recommendations are provided to users.).

As per claim 2, Sheena et al. discloses the method of claim 1, further comprising calculating a unary multiplicity voting recommendation from said runtime recommendation model (col. 8, lines 41-46; col. 11, lines 30-32; col. 16, lines 22-33; Zeros and ones (i.e., unary numbers) are used in the recommendation models.).

As per claim 3, Sheena et al. discloses the method of claim 1, further comprising calculating a non-unary multiplicity voting recommendation from said runtime recommendation model (col. 10, lines 5-15; col. 17, lines 4-6; Numbers between zero and one or greater than one (i.e., binary numbers) are used in the recommendation models.).

As per claim 4, Sheena et al. does not expressly disclose the method of claim 2, wherein said set step of calculating a unary multiplicity voting recommendation comprises calculating an anonymous recommendation (col. 3, lines 22-23; A user profile may represent more than one user, thus maintaining the anonymity of the individual users.).

As per claim 5, Sheena et al. discloses the method of claim 2, wherein said set step of calculating a unary multiplicity voting recommendation comprises calculating a personalized recommendation (col. 3, lines 36-38; col. 24, lines 58-60).

As per claim 6, Sheena et al. discloses the method of claim 3, wherein said set step of calculating a non-unary multiplicity voting recommendation comprises calculating an anonymous recommendation (col. 3, lines 22-23; A user profile may represent more than one user, thus maintaining the anonymity of the individual users.).

As per claim 7, Sheena et al. discloses the method of claim 3, wherein said set step of calculating a non-unary multiplicity voting recommendation comprises calculating a personalized recommendation (col. 3, lines 36-38; col. 24, lines 58-60).

As per claim 8, Sheena et al. discloses the method of claim 1, wherein said set step of forming a runtime recommendation model from said plurality of data structures comprises:

mapping said sparse ratings matrix into a plurality of sub-space ratings matrix, wherein said mapping step comprises multiplying said ratings matrix by a mappings matrix between said ratings matrix and a plurality of categories (col. 15, lines 3-11; Items that are rated may be mapped to different categories.).

As per claim 11, Sheena et al. discloses a method of preparing a recommendation to be accessed by a user comprising the steps of:

providing a sparse ratings matrix (col. 11, lines 58-60; The system discloses using a sparse ratings matrix.);

providing an update ratings data structure (col. 3, lines 30-33; col. 7, lines 54-65);

forming a plurality of data structures representing said sparse ratings matrix (col. 3, lines 40-57; col. 4, lines 56-67; The sparse ratings matrix is comprised of sparse

vectors that represent item profiles and user profiles, where the item profiles include

ratings on the items and the user profiles include users' ratings of the items.);

forming a runtime recommendation model from said plurality of data structures

and said update ratings data structure (col. 8, line 41-col. 9, line 56; Several similarity

models are used to determine recommendations for users.);

determining a recommendation from said runtime recommendation model in

response to a request from a user (col. 8, line 28-col. 9, line 56; Several similarity

models are used to determine recommendations for users.); and

providing said recommendation to said user (col. 11, lines 45-55; item 110 in

Figures 1 and 3; Recommendations are provided to users.).

Claims 12-18 and 36-41 recite substantially similar subject matter as claims 1-8

and 11 rejected above. Therefore, claims 12-18 and 36-41 are rejected on the same

basis as claims 1-8 and 11 above.

Additionally, with regard to new independent claims 36 and 41, Sheena et al.

discloses applying the sparse vectors/arrays (i.e., the user profiles and the item profiles)

to several numbers of recommendation models that use zero and non-zero entries,

thereby using a first recommendation model and a second recommendation model (col.

3, lines 34-57; col. 19, lines 50-50; col. 20).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

- Poore et al. (U.S. 5,959,574) discusses a multi-dimensional relaxation method;

- Bergh et al. (U.S. 6,112,186) discusses a collaborative filtering system.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to C. Michelle Tarae (formerly, C. Michelle Colon) whose

telephone number is 571-272-6727. The examiner can normally be reached Monday –

Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz, can be reached at 571-272-6729.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

C. Michelle Tarae
Patent Examiner
Art Unit 3623

September 18, 2006